

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (canceled)

2. (currently amended) ~~The method of claim 1, further comprising the steps of:~~ A method to monitor the relative position of a magnetic tape disposed in a tape drive, wherein said tape drive comprises a first tape reel motor and a second tape reel motor, comprising the steps of:

providing a magnetic tape disposed on a first tape reel, said magnetic tape comprising a first end, a second end;

releaseably attaching said first tape reel to said first tape reel motor;

providing a second tape reel;

attaching said second tape reel to said second tape reel motor;

operating said first tape reel motor and said second tape reel motor to transfer said tape from said first tape reel onto said second tape reel;

maintaining a running second reel rotation count;

maintaining a running first reel rotation count;

calculating a running difference count comprising the difference between said running second reel rotation count and said running first reel rotation count;

setting a running second reel rotation threshold;

setting a difference count threshold;

operative if said running second reel rotation count is greater than said second reel rotation count threshold, determining if said running difference count is less than said difference count threshold;

operative if said running second reel rotation count is greater than said second reel rotation count threshold, and if said running difference count is less than said difference count threshold, discontinuing operation of said first tape reel motor and said second tape reel motor.

3. (original) The method of claim 2, further comprising the steps of:

rotating said first tape reel in a first direction;

rotating said second tape reel in said first direction.

4. (currently amended) The method of claim 4, wherein said first tape reel motor comprises a brushless motor comprising a first rotor, a plurality of first magnetic poles disposed on said first rotor, and a plurality of first hall sensors disposed adjacent said first rotor, said method further comprising the steps of:

releaseably attaching said first tape reel to one end of said first rotor;

rotating said first rotor;

generating a plurality of first hall signals per rotation of said first rotor;

using said first hall signals to determine said running first reel rotation count.

5. (original) The method of claim 4, further comprising the step of generating 24 first hall signals per rotation of said first rotor.

6. (original) The method of claim 4, wherein said second tape reel motor comprises a brushless motor comprising a second rotor, a plurality of second magnetic poles disposed on said second rotor, and a plurality of second hall sensors disposed adjacent said second rotor,

said method further comprising the steps of:

releaseably attaching said second reel to one end of said second rotor;
rotating said second rotor;
generating a plurality of second hall signals per rotation of said second rotor;
using said second hall signals to determine said running second reel rotation count.

7. (original) The method of claim 6, further comprising the step of generating 24 second hall signals per rotation of said second rotor.

8. (currently amended) ~~The method of claim 1, wherein said magnetic tape further comprises at least one servo signal extending from about said first end to about said second end, wherein said servo signal comprises longitudinal position information, and wherein said tape drive further comprises a tape head which includes at least one servo sensor capable of reading said longitudinal position information, further comprising the steps of:~~

A method to monitor the relative position of a magnetic tape disposed in a tape drive, wherein said tape drive comprises a first tape reel motor, a second tape reel motor, and a tape head which includes at least one servo sensor capable of reading longitudinal position information, comprising the steps of:

providing a magnetic tape disposed on a first tape reel, said magnetic tape comprising a first end, a second end, and at least one servo signal extending from about said first end to about said second end, wherein said servo signal comprises longitudinal position information;

releaseably attaching said first tape reel to said first tape reel motor;

providing a second tape reel;

attaching said second tape reel to said second tape reel motor;

operating said first tape reel motor and said second tape reel motor to transfer said tape from said first tape reel onto said second tape reel;

maintaining a running second reel rotation count;

setting a second reel rotation count limit;

moving said magnetic tape adjacent said tape head;

determining a PRE-EOT LPOS servo signal;

determining if said PRE-EOT LPOS servo signal is detected;

operative if said PRE-EOT LPOS servo signal is detected, adjusting said second reel rotation count limit;

determining if said running second reel rotation count exceeds said second reel rotation count limit;

operative if said running second reel rotation count exceeds said second reel rotation count limit, discontinuing operation of said first tape reel motor and said second tape reel motor.

9. (original) The method of claim 8, further comprising the steps of:

determining a PRE-EOT running second reel count when said PRE-EOT LPOS servo signal is detected;

determining an incremental second reel count; and

adjusting said second reel rotation count limit to equal said PRE-EOT running second reel count plus said incremental second reel count.

10. (canceled)

11. (currently amended) ~~The article of manufacture of claim 10, said computer~~

~~readable program code further comprising a series of computer readable program steps to effect:~~ An article of manufacture comprising a computer useable medium having computer readable program code disposed therein to monitor the relative position of a magnetic tape disposed in a tape drive, wherein said tape drive comprises a first tape reel motor, a second tape reel motor, and a second tape reel attached to said second tape reel motor, the computer readable program code comprising a series of computer readable program steps to effect:

releaseably attaching a first tape reel to said first tape reel motor, wherein said first tape reel includes a magnetic tape comprising a first end and a second end;

operating said first tape reel motor and said second tape reel motor to transfer said magnetic tape from said first tape reel onto said second tape reel;

maintaining a running second reel rotation count;

receiving a second reel rotation count limit;

maintaining a running first reel rotation count;

calculating a running difference count comprising the difference between said running second reel rotation count and said running first reel rotation count;

setting a running second reel rotation threshold;

setting a difference count threshold;

operative if said running second reel rotation count is greater than said second reel rotation count threshold, determining if said running difference count is less than said difference count threshold;

operative if said running second reel rotation count is greater than said second reel rotation count threshold, and if said running difference count is less than said difference count

threshold, discontinuing operation of said first tape reel motor and said second tape reel motor.

12. (original) The article of manufacture of claim 11, said computer readable program code further comprising a series of computer readable program steps to effect:

rotating said first tape reel in a first direction;

rotating said second tape reel in said first direction.

13. (currently amended) The article of manufacture of claim ~~10~~ 11, wherein said first tape reel motor comprises a brushless motor comprising a first rotor, a plurality of first magnetic poles disposed on said first rotor, and a plurality of first hall sensors disposed adjacent said first rotor, said computer readable program code further comprising a series of computer readable program steps to effect:

releaseably attaching said first tape reel to one end of said first rotor;

rotating said first rotor;

receiving a plurality of first hall signals per rotation of said first rotor;

using said first hall signals to determine said running first reel rotation count.

14. (original) The article of manufacture of claim 13, said computer readable program code further comprising a series of computer readable program steps to effect receiving 24 first hall signals per rotation of said first rotor.

15. (original) The article of manufacture of claim 13, wherein said second tape reel motor comprises a brushless motor comprising a second rotor, a plurality of second magnetic poles disposed on said second rotor, and a plurality of second hall sensors disposed adjacent said second rotor, said computer readable program code further comprising a series of computer readable program steps to effect:

rotating said second rotor;

receiving a plurality of second hall signals per rotation of said second rotor;

using said second hall signals to determine said running second reel rotation count.

16. (original) The article of manufacture of claim 15, said computer readable program code further comprising a series of computer readable program steps to effect receiving 24 second hall signals per rotation of said second rotor.

17. (currently amended) ~~The article of manufacture of claim 10, wherein said magnetic tape further comprises at least one servo signal extending from about said first end to about said second end, wherein said servo signal comprises longitudinal position information, and wherein said tape drive further comprises a tape head which includes at least one servo sensor capable of reading said longitudinal position information, said computer readable program code further comprising a series of computer readable program steps to effect:~~

An article of manufacture comprising a computer useable medium having computer readable program code disposed therein to monitor the relative position of a magnetic tape disposed in a tape drive, wherein said magnetic tape comprises at least one servo signal extending from about said first end to about said second end, wherein said servo signal comprises longitudinal position information, wherein said tape drive comprises a first tape reel motor, a second tape reel motor, a second tape reel attached to said second tape reel motor, and a tape head which includes at least one servo sensor capable of reading said longitudinal position information, the computer readable program code comprising a series of computer readable program steps to effect:

releaseably attaching a first tape reel to said first tape reel motor, wherein said first tape

reel includes a magnetic tape comprising a first end and a second end;

operating said first tape reel motor and said second tape reel motor to transfer said magnetic tape from said first tape reel onto said second tape reel;

maintaining a running second reel rotation count;

receiving a second reel rotation count limit;

moving said magnetic tape adjacent said tape head;

determining a PRE-EOT LPOS servo signal;

determining if said PRE-EOT LPOS servo signal is detected;

operative if said PRE-EOT LPOS servo signal is detected, adjusting said second reel rotation count limit;

determining if said running second reel rotation count exceeds said second reel rotation count limit;

operative if said running second reel rotation count exceeds said second reel rotation count limit, discontinuing operation of said first tape reel motor and said second tape reel motor.

18. (original) The article of manufacture of claim 17, said computer readable program code further comprising a series of computer readable program steps to effect:

determining a PRE-EOT running second reel count when said PRE-EOT LPOS servo signal is detected;

receiving an incremental second reel count; and

adjusting said second reel rotation count limit to equal said PRE-EOT running second reel count plus said incremental second reel count.

19. (canceled)

20. (currently amended) ~~The computer program product of claim 19, further comprising:~~ A computer program product usable with a usable with a programmable computer processor having computer readable program code embodied therein method to monitor the relative position of a magnetic tape disposed in a tape drive, wherein said tape drive comprises a first tape reel motor, a second tape reel motor, and a second tape reel attached to said second tape reel motor, comprising:

computer readable program code which causes said programmable computer processor to releaseably attach a first tape reel to said first tape reel motor, wherein said first tape reel includes a magnetic tape comprising a first end and a second end;

computer readable program code which causes said programmable computer processor to operate said first tape reel motor and said second tape reel motor to transfer said magnetic tape from said first tape reel onto said second tape reel;

computer readable program code which causes said programmable computer processor to maintain a running second reel rotation count;

computer readable program code which causes said programmable computer processor to maintain a running first reel rotation count;

computer readable program code which causes said programmable computer processor to calculate a running difference count comprising the difference between said running second reel rotation count and said running first reel rotation count;

computer readable program code which causes said programmable computer processor to receive a second reel rotation count threshold;

computer readable program code which causes said programmable computer processor to receive a difference count threshold;

computer readable program code which, if said running second reel rotation count is greater than said second reel rotation count threshold, causes said programmable computer processor to determine if said running difference count is less than said difference count threshold;

computer readable program code which, if said running second reel rotation count is greater than said second reel rotation count threshold, and if said running difference count is less than said difference count threshold, causes said programmable computer processor to discontinue operation of said first tape reel motor and said second tape reel motor.

21. (original) The computer program product of claim 20, further comprising:

computer readable program code which causes said programmable computer processor to rotate said first tape reel in a first direction;

computer readable program code which causes said programmable computer processor to rotate said second tape reel in said first direction.

22. (currently amended) The computer program product of claim ~~19~~ 20, wherein said first tape reel motor comprises a brushless motor comprising a first rotor, a plurality of first magnetic poles disposed on said first rotor, and a plurality of first hall sensors disposed adjacent said first rotor, further comprising:

computer readable program code which causes said programmable computer processor to releaseably attach said first tape reel to one end of said first rotor;

computer readable program code which causes said programmable computer processor

to rotate said first rotor;

computer readable program code which causes said programmable computer processor to receive a plurality of first hall signals per rotation of said first rotor;

computer readable program code which causes said programmable computer processor to determine said running first reel rotation count using said first hall signals.

23. (original) The computer program product of claim 22, further comprising computer readable program code which causes said programmable computer processor to receive 24 first hall signals per rotation of said first rotor.

24. (original) The computer program product of claim 22, wherein said second tape reel motor comprises a brushless motor comprising a second rotor, a plurality of second magnetic poles disposed on said second rotor, and a plurality of second hall sensors disposed adjacent said second rotor, further comprising:

computer readable program code which causes said programmable computer processor to rotate said second rotor;

computer readable program code which causes said programmable computer processor to receive a plurality of second hall signals per rotation of said second rotor;

computer readable program code which causes said programmable computer processor to determine said running second reel rotation count using said second hall signals.

25. (original) The computer program product of claim 24, further comprising computer readable program code which causes said programmable computer processor to receive 24 second hall signals per rotation of said second rotor..

26. (currently amended) ~~The computer program product of claim 19 20, wherein said~~

~~magnetic tape further comprises at least one servo signal extending from about said first end to about said second end, wherein said servo signal comprises longitudinal position information, and wherein said tape drive further comprises a tape head which includes at least one servo sensor capable of reading said longitudinal position information, further comprising:~~

A computer program product usable with a usable with a programmable computer processor having computer readable program code embodied therein method to monitor the relative position of a magnetic tape disposed in a tape drive, wherein said magnetic tape comprises at least one servo signal extending from about said first end to about said second end, wherein said servo signal comprises longitudinal position information, wherein said tape drive comprises a first tape reel motor, a second tape reel motor, a second tape reel attached to said second tape reel motor, and a tape head which includes at least one servo sensor capable of reading said longitudinal position information, comprising:

computer readable program code which causes said programmable computer processor to releaseably attach a first tape reel to said first tape reel motor, wherein said first tape reel includes a magnetic tape comprising a first end and a second end;

computer readable program code which causes said programmable computer processor to operate said first tape reel motor and said second tape reel motor to transfer said magnetic tape from said first tape reel onto said second tape reel;

computer readable program code which causes said programmable computer processor to maintain a running second reel rotation count;

computer readable program code which causes said programmable computer processor to receive a second reel rotation count limit;

computer readable program code which causes said programmable computer processor to move said magnetic tape adjacent said tape head;

computer readable program code which causes said programmable computer processor to determine a PRE-EOT LPOS servo signal;

computer readable program code which causes said programmable computer processor to determine if said PRE-EOT LPOS servo signal is detected;

computer readable program code which, if said PRE-EOT LPOS servo signal is detected, causes said programmable computer processor to adjust said second reel rotation count limit;

computer readable program code which causes said programmable computer processor to determine if said running second reel rotation count exceeds said second reel rotation count limit;

computer readable program code which, if said running second reel rotation count exceeds said second reel rotation count limit, causes said programmable computer processor to discontinue operation of said first tape reel motor and said second tape reel motor.

27. (original) The computer program product of claim 26, further comprising:

computer readable program code which causes said programmable computer processor to determine a PRE-EOT running second reel count when said PRE-EOT LPOS servo signal is detected;

computer readable program code which causes said programmable computer processor to receive an incremental second reel count; and

computer readable program code which causes said programmable computer processor

to adjust said second reel rotation count limit to equal said PRE-EOT running second reel count plus said incremental second reel count.

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